Periscope.

a.—ANATOMY AND PHYSIOLOGY OF THE NERVOUS SYSTEM.

FUNCTIONS OF THE BRAIN.—L. Hermann (*Pflueger's Arch.*, X., p. 77) communicates the results of experiments on that subject, made in connexion with Drs. v. Borosnyai, Luchsinger, Steger and Pestalozzi. Doubting the correctness of Hitzig's explanation of his experiments, he localized the so-called centre on the surface of the cerebrum for the movements of the hind foot. On cauterizing this surface, or extirpating a piece to the depth of 1–1½ centimetre, or resorting to both procedures, he could still obtain the same movements of the extremity by applying the poles to the circumference of the cavity thus produced, without increasing the strength of the current. This proves conclusively that a diffusion of the current (Stromschleifen) reaches to below the cortex. He therefore maintains that Hitzig's results, correct as they are, do not warrant any conclusion on the function of the cerebral hemispheres. In his experiments, he noted the remarkable tolerance of the animals to this apparently severe operation. In two dogs surviving the experiments, all disturbances of motion and sensation succeeding the experiment had disappeared totally in the space of a fortnight, without regeneration of the portion destroyed. G.

THE promised extended account of his investigations on the results of extirpation of the optic thalami, is given by Prof. Nothnagel in *Virchow's Archiv*, LXII., 1. The conclusions are summed up as follows:

a. Destruction of the optic thalami does not cause motor paralysis.

b. Just as little does it produce cutaneous anæsthesia.

And the experiments seem to support the view of Meynert, that in the optic thalami, motor processes are set in action that are excited by peripheral sensory impressions.

THE subject of the functions of the brain was brought up in the Soc. de Biologie, April 3 (reported in *Gaz. Med. de Paris*), by M. Rouget, who reviewed a series of experiments undertaken by him for the purpose of testing the results obtained by Ferrier. He rejected the theory of diffusion of currents, proposed by Carville and Duret, and considered that the greater part of the results of the English author were well established.

M. Brown-Sequard remarked that in the observations of Ferrier there existed this peculiarity, that for the movements of one side of the head there were in various parts of the hemispheres five motor centres; for the anterior limbs there were only two, and the motor centre for the posterior members had long remained doubtful. There were two centres for the orbicularis muscle of the eye, and only one for all the movements of a limb. He considered that the question of the excitability of the cortex ought to be taken up thoroughly. Some fifteen observations on the human subject seemed to indicate to him that limited lesions of the gray matter of the cortex produced certain special symptoms. He therefore thought that the society ought to take up the subject, and moved that a commission be appointed to perform the necessary experiments, etc., to decide the question.

The president, M. Ranvier, therefore, nominated as members of the commission proposed, MM. Brown-Sequard, Moreau, Vulpian, and Lepine.

THE following note by M. Dupuy was read by the secretary, M. Henocque, at the *seance* of the Soc. de Biologie, April 17 (reported in *Gaz. Med. de Paris*):

1. If we lay bare the hemispheres in Guinea pigs, we never observe attacks of epileptiform convulsions, comparable to those which we see in animals, following various lesions of the nervous system.

2. An electric current, of any strength whatever, applied to these hemispheres also does not cause epileptiform convulsions in these animals, although it may produce the most violent opisthotonus.

3. The same is true of dogs and cats; the first, in particular, under the influence of intestinal worms, certain nervous lesions, and the intoxication by essence of absinthe, have convulsive epileptiform attacks, having no resemblance to opisthotonus nor to tetanic or choreic convulsions, or better, the universal muscular contractions provoked by electricity.

4. When we obtain localized movements in any group of muscles, from electric irritation of a given point of the cortical substance, I hold that these movements do not prove the excitability of the gray substance directly put in action by electricity. In a word, that substance is unexcitable. It may be, and I am inclined to think that it is so, that the electricity irritates and puts in action the nervous fibres in relation with the nerve cells, and which thus call out their action, but I do not believe that we can constantly designate any point whatever of the gray substance which, being thus called to action, can be considered as a motor centre. I propose to hereafter publish some experiments which support my views.

5. We cannot think that the most external white cortical layers are composed of excitable nervous fibres like those of the anterior columns of the cord, as M. Rouget has said, because the anterior columns, even when the animal is profoundly anæsthetized, irritated by the same current as the fibres of the cortex, give rise to muscular contractions, while the others under these conditions do not respond to this kind of irritation any more than to other physical and chemical means of irritation, which succeed with the anterior columns of the cord.

ARREST OF THE HEART.—M. Tarchanoff made a communication before the Soc. de Biologie, March 20 (reported in *Gaz. Med. de Paris*), in which, after alluding to the well-known experiment of Goltz, of causing a cessation of the heart's action by a smart tap on the abdomen, and those of Bernstein